Experimental and Molecular Pathology

VOLUME 4, 1965

Editorial Board:

Earl P. Benditt
Ivan L. Bennett
G. J. Cunningham
J. N. P. Davies
S. Allen Edgar
Alfred E. Farah
Sidney Farber
Robert J. Glaser
Alexander Haddow
W. Stanley Hartroft
Morris J. Karnovsky
Henry C. McGill
Joseph L. Melnick
Winfield S. Morgan
Hans Popper
Albert B. Sabin
Carlos Tejada
Tomizo Yoshida

Editors:

Frederick Coulston
Wilbur A. Thomas

Assistant Editors:

Kyu Taik Lee
Robert M. O'Neal

ACADEMIC PRESS
New York and London

Copyright ©, 1965, by Academic Press Inc.
ALL RIGHTS RESERVED
No part of this volume may be reproduced in any form by photostat, microfilm, or any other means, without written permission from the publishers.

MADE IN THE UNITED STATES OF AMERICA

FUMIGATED 1995

CONTENTS OF VOLUME 4

NUMBER 1, FEBRUARY 1965

SYMPOSIUM ON VIRUSES

EDITED BY

JOSEPH L. MELNICK AND ERWIN RABIN

FOREWORD i

MALCOLM H. MCGAVRAN AND MARGARET G. SMITH. Ultrastructural, Cytochemical, and Microchemical Observations on Cytomegalovirus (Salivary Gland Virus) Infection of Human Cells in Tissue Culture 1

PETER BECKER, JOSEPH L. MELNICK, AND HEATHER DONALD MAYOR. A Morphologic Comparison between the Developmental Stages of Herpes Zoster and Human Cytomegalovirus 11

NOBORU HIGASHI. Electron Microscopic Studies on the Mode of Reproduction of Trachoma Virus and Psittacosis Virus in Cell Cultures 24

HEATHER DONALD MAYOR AND LIANE E. JORDAN. Studies on Reovirus. I. Morphologic Observations on the Development of Reovirus in Tissue Culture 40

K. B. FRASER AND ELIZABETH M. CRAWFORD. Immunofluorescent and Electron Microscopic Studies of Polyoma Virus in Transformation Reactions with BHK21 Cells 51

SHAWKY A. HASSAN, ERWIN R. RABIN, AND JOSEPH L. MELNICK. Reovirus Myocarditis in Mice: An Electron Microscopic, Immunofluorescent and Virus Assay Study 66

URSULA HEINE, R. A. BONAR, AND J. W. BEARD. Aberrant Cytoplasmic Structures in Avian Virus Tumor Cells 81

ERWIN R. RABIN, C. ALAN PHILLIPS, ALFRED B. JENSON, AND JOSEPH L. MELNICK. Vaccinia Virus Myocarditis in Mice: An Electron Microscopic and Virus Assay Study 98

LUDWIG A. STERNBERGER, EDWARD J. DONATI, JOHN J. CUCULIS, AND JOHN P. PETRALI. Indirect Immunouranium Technique for Staining of Embedded Antigen in Electron Microscopy 112

EDWARD J. DONATI, FRANK H. J. FIGGE, AND LUDWIG A. STERNBERGER. Staining of Vaccinia Antigen by Immunouranium Technique 126

CÉSAR VASQUEZ AND CARLOS BRAILOVSKY. Purification and Fine Structure of Kilham's Rat Virus 130

NUMBER 2, APRIL 1965

N. R. DI LUZIO AND F. COSTALES. Inhibition of the Ethanol and Carbon Tetrachloride Induced Fatty Liver by Antioxidants 141

HENRY Z. MOVAT AND NEIL V. P. FERNANDO. The Fine Structure of the Lymphoid Tissue during Antibody Formation 155

DONALD SVOBODA, FERNANDO KIRCHNER, AND K. SHANMUGARATNAM. Ultrastructure of Nasopharyngeal Carcinomas in American and Chinese Patients. An Application of Electron Microscopy of Geographic Pathology 189

M. DARIA HAUST, JOHN C. WYLLIE, AND ROBERT H. MORE. Electron Microscopy of Fibrin in Human Atherosclerotic Lesions. Immunohistochemical and Morphologic Identification 205

RAMZI S. COTRAN. Endothelial Phagocytosis: An Electron-Microscopic Study .. 217

SANG CHUL NAM, KYU TAIK LEE, JEAN BOYLAN, AND WILBUR A. THOMAS. Dietary Lipid and Thrombosis: Study of "Trigger" Mechanism for Thrombosis in Stock Fed Rats 232

ANNOUNCEMENT 244

NUMBER 3, JUNE 1965

DAVID BRANDES, FRANCESCO BERTINI, AND ERNEST W. SMITH. Role of Lysosomes in Cellular Lytic Processes: II. Cell Death during Holocrine Secretion in Sebaceous Glands 245

AUGUSTINE L. ROQUE, NAEEM A. JAFAREY, AND PRISCILLA COULTER. A Stain for the Histochemical Demonstration of Nucleic Acids 266

G. GAJA, A. BERNELLI-ZAZZERA, AND G. SORGATO. Glycolysis in Dying Liver Cells 275

J. S. AMENTA AND A. M. DOMINGUEZ. Fatty Acid Flux and Triglyceride Secretion in the Hydrazine-Induced Fatty Liver 282

J. RAEKALLIO. Histochemical Demonstration of Enzymatic Response to Injury in Experimental Skin Wounds 303

O. T. MINICK, GEOFFREY KENT, EMILIO ORFEI, AND FREDERICK I. VOLINI. Non-Membrane Enclosed Intramitochondrial Dense Bodies 311

ROLLA B. HILL, JR., WILLIAM E. DROKE, AND ARTHUR P. HAYS. Hepatic Lipid Metabolism in the Cortisone-Treated Rat 320

EDWARD A. SMUCKLER, RUSSELL ROSS, AND EARL P. BENDITT. Effects of Carbon Tetrachloride on Guinea Pig Liver 328

JULIO M. FRASCA, OSCAR AUERBACH, VERTA PARKS, AND WALTHER STOECKENIUS. Electron Microscope Observations of Nuclear Evaginations in Bronchial Epithelium 340

NUMBER 4, AUGUST 1965

RICHARD J. STENGER. Fibrogenesis along the Hepatic Sinusoids in Carbon Tetrachloride-Induced Cirrhosis. An Electron Microscopic Study 357

RICHARD D. MOORE, VIRGIL R. MUMAW, AND MELVIN D. SCHOENBERG. Changes in Antibody Producing Cells in the Spleen during the Primary Response 370

JACK C. GEER, BERTRAM A. GLASS, AND HAROLD M. ALBERT. Pulmonary Vascular Lesions in the Dog Produced by Autogenous Clot Embolism 391

JACK C. GEER, BERTRAM A. GLASS, AND HAROLD M. ALBERT. The Morphogenesis and Reversibility of Experimental Hyperkinetic Pulmonary Vascular Lesions in Dog 399

J. H. BOSS. A Comparative Study of Kidney and Muscle Membrane Antigens in the Human and Rat 416

K. D. MILLER AND W. H. COPELAND. Human Thrombin: Isolation and Stability 431

WILLIAM W. CARLTON, CHARLES E. HUNT, AND PAUL M. NEWBERNE. Neural Lesions Induced in Ducklings by Isonicotinic Acid Hydrazide and Semicarbazide Hydrochloride 438

NORVELL W. HUNTER. Experimental Liver Poisoning of the Frog (*Rana pipiens*) with Carbon Tetrachloride. I. Liver-Glycogen Storage, Blood-Glucose Level, and Cytochrome-Oxidase Activity 449

NUMBER 5, OCTOBER 1965

SYMPOSIUM ON CAUSAL MECHANISMS IN ATHEROSCLEROSIS AND THROMBOSIS. III

C. W. ROBINSON, JR., S. C. KRESS, R. H. WAGNER, AND K. M. BRINKHOUS. Platelet Agglutination and Deagglutination with a Sulfhydryl Inhibitor, Methyl Mercuric Nitrate: Relationships to Platelet ATPase 457

VINCENT C. Y. KAO AND ROBERT W. WISSLER. A Study of the Immunohistochemical Localization of Serum Lipoproteins and other Plasma Proteins in Human Atherosclerotic Lesions 465

C. BRUCE TAYLOR, B. MIKKELSON, J. A. ANDERSON, D. T. FORMAN, AND S. S. CHOI. Human Serum Cholesterol Synthesis 480

DAVID KRITCHEVSKY AND SHIRLEY A. TEPPER. Cholesterol Vehicle in Experimental Atherosclerosis. VIII. Effect of a Medium Chain Triglyceride (MCT) 489

JACK C. GEER AND GRAY T. MALCOM. Cholesterol Ester Fatty Acid Composition of Human Aorta Fatty Streaks and Normal Intima 500

M. DARIA HAUST, ROBERT H. MORE, S. A. BENCOSME, AND JOHN U. BALIS. Elastogenesis in Human Aorta: An Electron Microscopic Study 508

[1]KATSUMI MIYAI AND JAN W. STEINER. Fine Structure of Interphase Liver Cell Nuclei in Subacute Ethionine Intoxication 525

[1] Not included in the Symposium.

NUMBER 6, DECEMBER 1965

JOHN D. MULL AND WALTER S. CALLAHAN. The Role of the Elastase of *Pseudomonas aeruginosa* in Experimental Infection 567

WILLIAM E. JAQUES, JACQUE COALSON, AND ANDRIS ZERVINS. Application of the Scanning Electron Microscope to Human Tissues. A Preliminary Study 576

DONG NACK KIM, KYU TAIK LEE, AND WILBUR A. THOMAS. Dietary Lipids and Thrombosis. Study of Factors in Thrombogenic Diets Fed to Rats Accounting for Increases in Fibrinogen and Cholesterol Levels 581

LEOPOLD DINTENFASS. Viscosity of the Packed Red and White Blood Cells ... 597

ABBAS M. BEHBEHANI, JOSEPH L. MELNICK, AND MICHAEL E. DEBAKEY. A Paramyxovirus Isolated from Human Atheromatous Lesion 606

P. O'B. MONTGOMERY, LANNIE HUGHES, AND EUGENE P. FRENKEL. The DNA of the Inflammatory Cell in Repair 620

JOEL B. KIRKPATRICK AND GEORGE D. SORENSON. Experimental Amyloidosis. IV. Effect of Colloidal Gold on the Development of Amyloidosis 627

AUTHOR INDEX 640

SUBJECT INDEX 642